

REMARKS

Applicants thank the Examiner for the thorough consideration given the present application. Claims 2-16 are currently being prosecuted. The Examiner is respectfully requested to reconsider his rejections in view of the amendments and remarks as set forth below.

Title

The Examiner indicated that the title of the invention was not descriptive and required a new title. Applicants have now supplied a concise title that describes the presently claimed invention. Accordingly, this objection is believed to be overcome.

Rejection under 35 U.S.C. 112

Claims 1-8 and 12-15 stand rejected under 35 U.S.C. 112, first paragraph, as having a single step. By way of the present Amendment, Applicants have cancelled independent claim 1 and replaced it with new independent claim 16. This claim has been written in a series of steps and describes in more detail the steps of the method. Applicants submit that the claims now meet the description requirement and convey to one skilled in the art the present invention.

Rejection under 35 U.S.C. 102

Claims 1-6 and 12 stand rejected under 35 U.S.C. 102(b) as being anticipated by Kusunuki et al. (USP 4,448,286). This rejection is respectfully traversed.

The Examiner points out that Kusunuki et al. teaches an elevator group control system which responds to landing calls and car calls, which are provided to computing means 1 and 2. The Examiner further states that the energy consumption and load are used to determine the car allocation. The Examiner also refers to column 7, lines 50-67 to show that a plurality of tables can be used rather than a mathematical formula. Applicants disagree that the present claimed invention is anticipated by Kusunuki et al.

In the Kusunuki et al. reference, power consumption is reduced by minimizing the number of cars that are used at any given time. This is stated at column 4, lines 5 and 6, and is also indicated in equation 2 at column 3, line 49. By minimizing the number of cars which respond at any given time, the amount of power consumed is reduced. The traffic demand detecting means 7 determines the evaluation factor weighting coefficient α which is used to multiply the floor-stop call evaluation factor P and thus vary the weighting for this factor in relation to the serviceability evaluation factor

Tw. As is clearly seen, energy consumption is reduced by reducing the number of elevator cars which respond to calls based on the traffic demand.

The present invention differs in concept from this scheme. In the present invention, a file is established which lists the energy consumption of each elevator based on the floor from which it leaves, the floor to which it goes, and the load in the car. In order to minimize energy consumption, the energy consumption for each elevator car is evaluated and allocation of trips that produce the minimum energy consumption is then utilized. This does not rely on shutting down a certain number of cars, but rather is based on the determination of the energy consumed for various possible trips.

New claim 16 now describes the method as including providing an energy consumption file, which describes the energy consumption for an elevator during trips from one floor to another with different loads. This is not described in Kuzunuki et al. First, there is no file at all. In addition, the weighting factor α only determines the degree to which the floor stop call evaluation factor is applied. Also, claim 16 describes the method as including the step of selecting the trips of the elevators so as to minimize energy consumption. This is also not seen in Kuzunuki et al.

Instead, the reference device only attempts to minimize the number of cars that are utilized. In view of this, Applicants submit that the Kuzunuki et al. reference does not teach the steps of the method described in claim 16.

Claims 2-15 depend from claim 16, and as such are also considered to be allowable. In addition, these claims recite a number of other features of the invention, including the combination of files for identical elevators, the generation of the file data from various sources, the updating of the file, and the dividing of the load into categories. These features are not seen in the Kuzunuki et al. reference and accordingly, the dependent claims are additionally allowable.

Rejection under 35 U.S.C. 103

Claims 7-11 and 13-15 stand rejected under 35 U.S.C. 103(a) as being obvious over Kuzunuki et al. in view of Ylinen et al. (USP 6,293,368). This rejection is respectfully traversed.

The Examiner admits that Kuzunuki et al. does not show the specifics of the consumption file and relies on the Ylinen et al. reference to teach an optimization based on a number of criteria. Applicants submit that the combination of these two references still does not meet the terms of claim 16. In particular, neither

of the references nor their combination describe the specific energy consumption files and the determination of the minimization of the energy consumption of the various trips as presently claimed. Accordingly, claim 16 and the claims that depend therefrom are not obvious over the combination of these two references.

Furthermore, the dependent claims describe other features of the invention not seen in either of the references, including the specific source of the energy consumption files, the updating of the files, and the dividing of the load into categories. Accordingly, these claims are considered to be additionally allowable.

Conclusion

In view of the above remarks, it is believed that the claims clearly distinguish over the patents relied on by the Examiner, either alone or in combination. In view of this, reconsideration of the rejections and allowance of all the claims are respectfully requested.

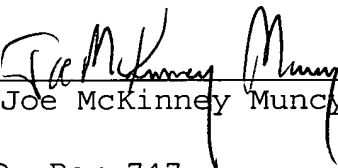
Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert F. Gnuse (Reg. No. 27,295) at the telephone number of the undersigned below, to conduct an interview

in an effort to expedite prosecution in connection with the present application.


If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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Attachment(s)